



## A view from above: Use of satellite imagery to enhance our understanding of potential impacts of climate change on human health in the Arctic

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### Abstract:

**OBJECTIVE:** Provide an overview and examples of some of the remote sensing technologies presently or potentially available, which could be used to address environmental health problems in the Arctic. **STUDY DESIGN:** The vulnerability of Arctic populations to health impacts from environmental, weather, and climate-related factors underscores the need for increased applications of technologies such as remote sensing, Geographic Information Systems (GIS), and global positioning systems (GPS) for empowering local health officials and decision-makers to better predict environment-related health problems, decrease vulnerabilities, take preventative measures, and improve community response actions as well as increase community health literacy. **METHODS/RESULTS:** These increased capabilities for monitoring, risk mapping, information sharing, communications, and surveillance of environmental parameters are powerful tools for addressing such environmentally-related health problems as thermal stress; extreme weather; contaminant transport and deposition into oceans, atmosphere, and ice; air and water quality; built environment impacts; ultraviolet radiation (UV); and infectious and vector-borne diseases. For example, systems are now in place, which can observe ocean parameters, providing information on algal blooms, pollutants and pathogens as well as storm assessments and sea level rise. **CONCLUSION:** Space-based systems in place can contribute valuable information through monitoring the processes of long-range transport of pollutants to the Arctic, where accumulation in animals and plants can occur. It is well-known that biomagnification up the food chain and ultimate consumption as traditional foods by indigenous peoples have resulted in some of the highest exposures in the world to certain contaminants.

**Source:** Ask your librarian to help locate this item.

### Resource Description

#### Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

#### Communication Audience:

audience to whom the resource is directed

Policymaker



# Climate Change and Human Health Literature Portal

## **Exposure :**

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Sea Level Rise, Solar Radiation, Temperature

**Food/Water Quality:** Biotoxin/Algal Bloom, Chemical, Pathogen

**Temperature:** Extreme Heat

## **Geographic Feature:**

resource focuses on specific type of geography

Arctic

## **Geographic Location:**

resource focuses on specific location

Non-United States, United States

**Non-United States:** Asia, Europe

**Asian Region/Country:** Other Asian Country

**Other Asian Country:** Russia

**European Region/Country:** European Country

**Other European Country :** Norway

## **Health Impact:**

specification of health effect or disease related to climate change exposure

Infectious Disease, Injury

**Infectious Disease:** General Infectious Disease, Vectorborne Disease

**Vectorborne Disease:** General Vectorborne, Mosquito-borne Disease

**Mosquito-borne Disease:** Malaria

## **Intervention:**

strategy to prepare for or reduce the impact of climate change on health

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## **Mitigation/Adaptation:**

mitigation or adaptation strategy is a focus of resource

Adaptation

**Population of Concern:** A focus of content

## **Population of Concern:**

populations at particular risk or vulnerability to climate change impacts

# Climate Change and Human Health Literature Portal

Racial/Ethnic Subgroup

**Other Racial/Ethnic Subgroup:** Arctic populations

**Resource Type:** ☒

format or standard characteristic of resource

Research Article

**Timescale:** ☒

time period studied

Time Scale Unspecified

**Vulnerability/Impact Assessment:** ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content